COPY

Atty. Docket No.: 25436/2345C PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:	Sorge, et al.	Examiner:	Not Yet Assigned
Serial No.:	10/734,563		
Filed:	December 12, 2003	Group Art Unit:	1652
Entitled:	DNA POLYERMASE COMPOSITIONS FOR QUANTITATIVE PCR AND METHODS THEREOF	Conf. No.:	2401

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8a

I hereby certify that this correspondence (and any paper or fee referred to as being enclosed) is being deposited with the United States Post Office as First Class Mail on the date indicated below in an envelope addressed to Mail Stop Missing Parts, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Kathleen M. Williams
Name of Person Mailing Paper

Signature of Person Mailing Paper

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF SEQUENCE LISTING AND PRELIMINARY AMENDMENT IN RESPONSE TO NOTICE TO COMPLY WITH 37 C.F.R. §§1.821-1.825

Sir:

This amendment is submitted in response to the Notice to File Missing Parts of Application, and the Notice to Comply with Sequence Rules 37 C.F.R. §§1.821-1.825 attached thereto, mailed from the Patent Office on September 29, 2004, a copy of which is attached.

Transmitted herewith is a copy of the "Sequence Listing" (sheets 1/174 through 174/174) in paper form for the above-identified patent application as required by 37 C.F.R. §1.821(c) and a copy of the Sequence Listing in computer readable form as required by 37 C.F.R. §1.821(e). As required by 37 C.F.R. §1.821(f), Applicant's Attorney hereby states that the content of the "Sequence Listing" in paper form and the computer readable form of the "Sequence Listing" are the same and, as required by 37 C.F.R. §1.821(g), also states that the submission includes no new matter.

Applicants Attorney submits the following amendments to comply with 37 C.F.R. §1.825:

Amendments to the Specification begin on page 3 of this paper.

Applicants respectfully request entry of the amendments and remarks.

Amendments to the Specification:

Please replace the paragraph at page 8, from line 14 through line 15, with the following paragraph:

-- 7B Amino acid sequence alignment of example wild-type Archaeal DNA polymerases according to one embodiment of the invention: Pfu: SEQ ID NO: 27; Tgo: SEQ ID NO: 29; KOD: SEQ ID NO: 30; Vent: SEQ ID NO: 31; Deep: SEQ ID NO: 28; JDF-3: SEQ ID NO: 32. --

Please replace the paragraph at page 73, from line 16 through line 26 with the following paragraph:

-- To analyze Tgo, Pfu, KOD, JDF-3 mutant proteins, the DNA sequence encoding each of Tgo, Pfu, KOD, and JDF-3 DNA polymerases is PCR amplified using primers GGG AAA **CAT ATG** ATC CTT GAC GTT GAT TAC (SEQ ID NO: 109; where NdeI site in bold and start codon underlined) and GGG AAA **GGA TCC** TCA CTT CTT CTT CCC CTT C (SEQ ID NO: 110; where BamHI site shown in bold type). The PCR products are digested, purified, and ligated into a high expression level vector using standard methods. Plasmid clones are transformed into BL21(DE3). Recombinant bacterial clones are grown using standard procedures and polymerase mutants are expressed in the absence of induction. The exonuclease and polymerase activities of recombinant clones are assayed using bacterial lysates. Typically, crude extracts are heated at 70°C for 15-30 minutes and then centrifuged to obtain a cleared lysate. --

Respectfully submitted,

Date: November 29, 2004

Name: Kathleen M. Williams
Registration No.: 34,380
Customer No.: 27495
Palmer & Dodge LLP
111 Huntington Avenue
Boston, MA 02199-7613
Tel: 617-239-0100